



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,025	03/15/2001	Cedric Lapaille	Q63534	4899

7590 08/26/2004

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
Suite 800
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037-3213

EXAMINER

ELAHEE, MD S

ART UNIT	PAPER NUMBER
----------	--------------

2645

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/808,025

Applicant(s)

LAPAILLE ET AL.

Examiner

Md S Elahee

Art Unit

2645

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Response to Amendment

1. This action is responsive to an amendment filed 06/08/04. Claims 1-15 are pending.

Response to Arguments

2. Applicant's arguments filed regarding claims 1-15 have been fully considered but are moot in view of the new ground(s) of rejection which is deemed appropriate to address all of the added limitations at this time.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 13 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Lyles et al. (U.S. Patent No. 5,917,822).

Regarding claim 13, Lyles teaches a bandwidth allocation unit (i.e., management unit) for allocating communication resources to a plurality of terminal equipment units 210 (i.e., terminals) of a telecommunication system in which requests (i.e., calls) are effected by cells or by packets (abstract; col.2, lines 3-14, col.6, lines 44-67, col.7, lines 1-6, 11, 12).

Lyles further teaches that at least some of the terminal equipment units include a plurality of channels (i.e., connections) (fig.2, channels 200, 205, physical coax 120), the resources are

Art Unit: 2645

allocated cell by cell or packet by packet (col.2, lines 3-14, col.6, lines 44-67, col.7, lines 1-6, 11, 12).

Lyles further teaches that the unit includes means for receiving from each terminal a burst (i.e., symbol) representing the total number of packets awaiting transmission (col.7, lines 11, 12).

Lyles further teaches bandwidth allocation unit (i.e., means) for allocating the communication resources for the terminal according to the number of waiting packets (col.6, lines 60-67, col.7, lines 1-6, 13-20) and

Lyles further teaches bandwidth allocation unit (i.e., means) for transmitting bandwidth assignment grant messages (i.e., resource allocation messages) to each terminal (see col.6, lines 60-67, col.7, lines 1-12). (Note: each of the network access units makes requests and requests are made in terms of total number of packets in the queue (see col.7, lines 11, 12). The bandwidth allocation unit allocates bandwidth for each of the requests made by each of the network access units (see col.6, lines 60-66))

Regarding claim 15, Lyles teaches that the bandwidth (i.e., weighting coefficient) allocated to each connection of a terminal determines the time period between the transmission times of two successive cells of the connection (col.9, lines 61-67, col.10, lines 1-7, 46-55, col.11, lines 27-67, col.12, lines 1-17).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2645

6. Claims 1-7 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyles et al. (U.S. Patent No. 5,917,822) and in view of Teraslinna (U.S. Patent No. 5,812,525).

Regarding claim 1 is rejected for the same reasons as discussed above with respect to claim 13. Furthermore, Lyles teaches that a telecommunication system in which a plurality of terminal equipment units 210 (i.e., terminals) communicate with a head-end controller (i.e., connection station) (fig.1, 3; col.1, lines 57-67, col.2, lines 1-14).

Lyles further teaches that a bandwidth allocation unit (i.e., management unit) determines the allocation of resources for requests (i.e., calls) from each terminal equipment unit to the head-end controller (fig.1, 3; col.1, lines 57-67, col.2, lines 1-14, 34-37, col.6, lines 47-56).

Lyles further teaches that the bandwidth allocation unit includes means for allocating communication resources to each terminal equipment unit 210 according to the total number of cells or packets waiting in each terminal equipment unit 210 and a bandwidth (i.e., weighting coefficient) allocated to each terminal equipment unit 210 (col.6, lines 44-67, col.7, lines 1-6, col.9, lines 20-25).

However, it is not clear whether Lyles teaches that the allocation of resources by the management unit is independent of the number of connections of each terminal, and each terminal includes means for allocating resources to each connection according to the overall resources allocated to the terminal by the management unit. Teraslinna teaches that the allocation of resources by the management unit is independent of the number of connections of each terminal (see col.3, lines 48-54), and each terminal includes means for allocating resources to each connection according to the overall resources allocated to the terminal by the management

Art Unit: 2645

unit (fig.5, 6; col.9, lines 6-14, 40-47). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lyles to allow the allocation of resources by the management unit being independent of the number of connections of each terminal, and each terminal includes means for allocating resources to each connection according to the overall resources allocated to the terminal by the management unit as taught by Teraslinna. The motivation for the modification is to have doing so for the purpose of assigning and associating bandwidth as well as in order to dynamically assign the bandwidth to each of the connections based on the need.

Regarding claims 2 and 10, Lyles teaches that the bandwidth (i.e., weighting coefficient) allocated to each connection in a terminal depends on the quality of service of the channel (i.e., connection) (fig.1-fig.4; col.1, lines 57-67, col.2, lines 1-14, 34-38, col.6, lines 44-67, col.7, lines 1-6, col.10, lines 24-29).

Regarding claim 3, Lyles teaches that the bandwidth (i.e., weighting coefficient) allocated to each terminal is the sum of weighting coefficients allocated to each connection of the terminal (fig.1-fig.4; col.1, lines 57-67, col.2, lines 1-14, 34-38, col.7, lines 13-25).

Regarding claim 4, Lyles teaches that the management unit includes means for allocating to each terminal a number of cells to be transmitted and the start and finishing (i.e., end) of transmission times for the terminal (col.9, lines 61-67, col.10, lines 1-7, 46-55, col.11, lines 27-67, col.12, lines 1-17).

Regarding claim 5, Lyles teaches that the bandwidth (i.e., weighting coefficient) allocated to each terminal determines the required time period between ordering packets (i.e.,

Art Unit: 2645

successive transmission times) for the terminal (col.9, lines 61-67, col.10, lines 1-7, 46-55, col.11, lines 27-67, col.12, lines 1-17).

Regarding claim 6, Lyles teaches that the bandwidth (i.e., weighting coefficient) allocated to each connection of a terminal determines the time period between the transmission times of two successive cells of the connection (col.9, lines 61-67, col.10, lines 1-7, 46-55, col.11, lines 27-67, col.12, lines 1-17)

Regarding claim 7 is rejected for the same reasons as discussed above with respect to claims 1 and 13. Furthermore, Lyles teaches means for periodically receiving from the bandwidth allocation unit an authorization signal 410 (i.e., signal) representing the communication resources allocated to the terminal equipment unit 210 (col.6, lines 47-67, col.7, lines 1-25, col.9, lines 55-67, col.10, lines 1-7).

Regarding claim 11, Lyles teaches transmitting two ordering (i.e., successive) cells of the same channel (i.e., connection) at times separated by a time period that depends on the weighting coefficient allocated to the channel (col.11, lines 27-67, col.12, lines 1-17).

Regarding claim 12, Lyles teaches that the time period between the transmission of two successive cells of the same connection inherently depends on the reciprocal of the bandwidth (i.e., weighting coefficient) allocated to the corresponding connection (col.11, lines 27-67, col.12, lines 1-17). Here, bandwidth is inversely proportional to the time period.

7. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyles et al. (U.S. Patent No. 5,917,822) and in view of Teraslinna (U.S. Patent No. 5,812,525) and further in view of Ding et al. (U.S. Patent No. 5,699,361).

Art Unit: 2645

Regarding claims 8 and 14 are rejected for the same reasons as discussed above with respect to claim 4. Furthermore, Lyles in view of Teraslinna fails to teach that the resource allocation signal that is received from the management unit represents a number of cells to be transmitted and the means for allocating resources to each connection select the connections that will be able to transmit a cell. Ding teaches the request (i.e., resource allocation signal) that is received from the streamer process 330 (i.e., management unit) represents a number of packets (i.e., cells) to be transmitted and the means for allocating resources to each channel (i.e., connection) select the channels that will be able to transmit a cell (col.18, line 66-col.19, line 18). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lyles in view of Teraslinna to allow the resource allocation signal that is received from the management unit represents a number of cells to be transmitted and the means for allocating resources to each connection select the connections that will be able to transmit a cell as taught by Ding. The motivation for the modification is to have the override condition in order to transfer the packets from the buffer.

Regarding claim 9 is rejected for the same reasons as discussed above with respect to claim 8. Furthermore, Lyles teach determining the transmission time of each cell (col.11, lines 27-67, col.12, lines 1-17).

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lyles et al. (U.S. Patent No. 5,917,822) and in view of Ding et al. (U.S. Patent No. 5,699,361).

Regarding claim 14 is rejected for the same reasons as discussed above with respect to claim 8.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pasternak et al. (U.S. Patent No. 6,760,305) teach Wireless ATM network with high quality of service scheduling, Matsunaga et al. (U.S. Patent No. 6,704,932) teach Multi-access communication system and uplink band allocating method, Surazski et al. (U.S. Patent No. 6,657,983) teach Scheduling of upstream traffic in a TDMA wireless communications system and Kwok (U.S. Patent No. 5,734,652) teach ATM extended autoregistration and VPI/VCI assignment in a hybrid fiber-coax cable network.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Md S Elahee whose telephone number is (703)305-4822. The examiner can normally be reached on Mon to Fri from 8:30am to 5:00pm.

Art Unit: 2645

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (703)305-4895. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M.E.

MD SHAFIUL ALAM ELAHEE
August 23, 2004

FAN TSANG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

